UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,031	01/30/2002	Toshihiro Takagi	3064IT/50891	7279

7590 07/16/2008

Crowell & Moring, L.L.P.
P.O. Box 14300
Washington, DC 20044-4300

EXAMINER	
RAMAN, USHA	
ART UNIT	PAPER NUMBER
2623	

MAIL DATE	DELIVERY MODE
07/16/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/059,031	TAKAGI ET AL.	
	Examiner	Art Unit	
	USHA RAMAN	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2 and 4-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Miscellaneous

1. In response to applicant's communications dated June 5th, 2008 regarding the last Office action, the following corrective action is taken. Applicant's arguments concerning the Double Patenting rejection made in the Final Office Action mailed on April 18th, 2008 have been noted. The Double Patenting rejection of claim 5 has been withdrawn.

   The period for reply of 3 MONTHS set in said Office Action is restarted to begin with the mailing date of this letter.

Response to Arguments

2. Applicant's arguments filed January 9th, 2008 have been fully considered but they are not persuasive.

   Applicant argues (see Remarks, page 12) that McDermott's figure 6 shows that, "when the virtual channel is not in the VCT, tuning is stopped and message is displayed n the screen" because "there is no disclosure or suggestion in McDermott that the 'No' path out of the decision step 626 of Figure 6 would result in a shifting of a frequency to search for a physical channel, referencing a FCT for channel selection when the VCT can be obtained or selecting the smallest sub-channel in the same physical channel as the desired channel when the VCT cannot be obtained". Examiner respectfully disagrees with applicant's arguments as Mears has been relied upon for the teaching of how to handle invalid/unavailable channels, such as the one encountered when entering step 630 in McDermott. For example, Mears

discloses that valid main channel and invalid sub-channel maybe entered when, the system simply tunes to the smallest sub-channel. See column 6, lines 60-67. Accordingly Mears shows a more intuitive channel tuning mechanism that can be incorporated into the system of McDermott, when the system is unable to tune to a user requested sub-channel. As such the modified system shows the step of when the channel information in not available, shifting to a frequency to search for the physical channel and selecting such a channel that has the smallest sub-channel in the same physical channel as the desired channel.

Applicant's arguments stating (see page 13) that, "McDermott when the virtual channel is not in the VCT a new VCT is obtained" have been noted, however the examiner notes that the claim recites "references the VCT for channel selection *when* it could obtain the VCT". As such in the modified system, when an invalid sub-channel has been entered by the user, the system attempts to select smallest sub-channel of the main channel, and when the smallest sub-channel is an analog channel, the system will directly tune to it (see Mears column 6, lines 60-67) and when the smallest sub-channel is a digital channel, the system would tune to the physical channel corresponding the smallest sub-channel of the digital channel as taught by McDermott, which involves downloading the VCT every time a physical channel is tuned to.

Applicant further argues (see page 14) that, "McDermott and Mears are both silent regarding storing a channel in memory due to a previous selection of a main channel corresponding to a main channel of the channel changing instruction". The

examiner respectfully disagrees. In particular McDermott discloses that channels stored in memory during auto programming, wherein the channels have first been tuned to and then their VCT information is stored in the memory (see figure 3A and column 5, lines 1-15). Therefore, McDermott teaches that channels stored in memory further includes a channel stored in memory due to previous selection (tuning) of a main channel corresponding to a main channel of the channel changing instruction.

For the reasons stated above, the rejection has been maintained.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 4, 8 and 9, are rejected under 35 U.S.C. 103(a) as being unpatentable over McDermott (US Pat. 6,775,843) in view of Mears et al. (US Pat. 6,707,508) and Kim (US PG Pub. 2005/0005307).

With regards to claim 1, McDermott discloses a channel selection device (see column 2, lines 18-21) used in a digital/analog broadcasting receiver (see column 3 lines 44-46) comprising:

A receiver (110) for receiving an encoded digital/analog broadcasting signal originated from a broadcasting station (see column 3, lines 13-24, 29-40, and 38-65);

A digital/analog decoder (115) for decoding the digital/analog broadcasting signal received from the receiver and then outputting the signal to a display (column 3, lines 41-57);

A memory (155) for storing a channel map (185), channel information contained in the broadcasting signal decoded by the digital decoder (column 4, lines 40-54);

A control unit (150) for controlling the sections of the receiver and an input device for inputting user's instructions for channel selection to the control unit (column 4, lines 21-29),

An input device for inputting a user's instruction for channel selection to the control unit (see column 3, lines 66-column 4, line 6)

Wherein the device receives a digital broadcast and an analog broadcast which are originated through different physical channels, the digital broadcasting signal has one or a plurality of sub-channels for originating contents there through per one physical channel, and also has a VCT containing virtual channel information that provides sub channels with a correlation with an analog broadcasting physical channel (see column 5, lines 1-35), and

The control unit (150) controls the device such that the receiver receives the broadcasting signal of a selected channel upon reception of the channel selection

instruction from the input device (see column 3, lines 66-column 4, line 6) and then the digital decoder (115) decodes the received broadcasting signal (see column 3, lines 58-65), in order to obtain the channel information contained in the decoded broadcasting signal and then store the channel information in the memory (see column 5, lines 7-35),

McDermott discloses the step of tuning to a physical channel of the major channel first, obtaining the VCT from the physical channel, and checking to see if the virtual channel is there in the VCT and then checking if requested minor channel is in the current physical channel (CTSID = TTSID?). As such, McDermott discloses (b) when a virtual channel was unable to be tuned to in the current physical channel (thereby failing channel selection in the first iteration of the loop of fig. 6), obtaining the latest VCT, to see if there exists an entry for the requested virtual channel. See column 6, lines 21-38. Additionally, the step of selecting a desired channel is based on locating the desired channel based on information stored in the memory (channel maps, downloaded VCT). See column 6, lines 21-25, and lines 29-31. Furthermore, as McDermott teaches the step of searching for the desired channel in more than one physical channels (i.e. when CTSID is not TTSID), (II) the control unit shifts a frequency to search for a new physical channel and references the VCT for channel selection when it could obtain the VCT (see column 6, lines 54-62). Additionally McDermott discloses that when channels cannot be tuned to displaying a “service unavailable” message.

McDermott fails to disclose that (I)(b) control unit could not find the desired channel because the channel is not currently being aired, and selecting such a channel in the VCT that has the smallest sub-channel number in the same main channel as the desired channel or such a channel that has the smallest sub-channel number in the same physical channel as the desired channel and fails to disclose that (II) control unit could not find the channel information for the desired channel in memory (e.g. desired channel is not valid) and when it could not obtain the VCT selects such a channel that has the smallest sub-channel number in the same physical channel as the desired channel.

In a similar field of endeavor, Kim discloses a scenario wherein (I)(b) channels/sub-channels that were previously broadcasting programs become inactive at certain times (see fig. 2). When a user selects a channel that is currently not broadcasting, Kim teaches the method of skipping the inactive channel to present the user the next active channel. Kim as such teaches tuning to another sub-channel when the desired channel is no longer being aired.

Mears discloses the (I)(b) and (II) steps of selecting the smallest sub-channel number in the same main channel as the desired channel (see column 6, lines 60-67) when (II) a control unit could not find the desired (minor) channel and failed in the channel selection. Mears therefore provides an easy, intuitive user-friendly method of channel selection by presenting a valid channel the user even when the requested channel is not available.

Therefore, McDermott Kim and Mears bear evidence to one of ordinary skill in the art for disclosing steps including: channels becoming unavailable because they are currently not being aired (Kim) or because the channel information is not found in memory (Kim), and when a channel cannot be tuned to, selecting the smallest sub-channel number in the same main channel. All the claimed elements were known in the prior art, and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. In the modified system, when an invalid sub-channel has been entered by the user, the system attempts to select smallest sub-channel of the main channel (see Mears column 6, lines 44-67), and when such a smallest sub-channel is a digital channel, the system would tune to the smallest sub-channels by looking up the channel maps as taught by McDermott to tune to the physical channel of the smallest sub-channel and obtain its VCT, and in the scenario when the smallest sub-channels is an analog channel, the unit can tune directly to the physical channel as taught by Mears (see Mears: column 6, lines 60-65).

With regards to claim 2, McDermott discloses a channel selection device (see column 2, lines 18-21) used in a digital/analog broadcasting receiver (see column 3 lines 44-46) comprising:

A receiver (110) for receiving an encoded digital/analog broadcasting signal originated from a broadcasting station (see column 3, lines 13-24, 29-40, and 38-65);

A digital/analog decoder (115) for decoding the digital/analog broadcasting signal received from the receiver and then outputting the signal to a display (column 3, lines 41-57);

A memory (155) for storing a channel map (185), channel information contained in the broadcasting signal decoded by the digital decoder (column 4, lines 40-54);

A control unit (150) for controlling the sections of the receiver and an input device for inputting user's instructions for channel selection to the control unit (column 4, lines 21-29),

An input device for inputting a user's instruction for channel selection to the control unit (see column 3, lines 66-column 4, line 6)

Wherein the device receives a digital broadcast and an analog broadcast which are originated through different physical channels, the digital broadcasting signal has one or a plurality of sub-channels for originating contents there through per one physical channel, and also has a VCT containing virtual channel information that provides sub channels with a correlation with an analog broadcasting physical channel (see column 5, lines 1-35), and

The control unit (150) controls the device such that the receiver receives the broadcasting signal of a selected channel upon reception of the channel selection instruction from the input device (see column 3, lines 66-column 4, line 6) and then the digital decoder (115) decodes the received broadcasting signal (see column 3, lines 58-65), in order to obtain the channel information contained in the decoded

broadcasting signal and then store the channel information in the memory (see column 5, lines 7-35),

Wherein the control unit upon reception of the channel changing instruction from the input device (610), tries channel selection based on the channel information stored in the memory (see column 6, lines 21-61).

Wherein the control unit upon reception of the channel changing instruction from the input device (610), tries to select the channel by referencing the VCT thereof when the control unit could find channel information of a channel related to the changing instruction (desired channel) in the memory, and as a result of the trial selects the channel when the desired channel was found (see column 6, lines 21-50).

McDermott further discloses the step of tuning to *a* physical channel of the major channel first, obtaining the VCT from the physical channel, and checking to see if the virtual channel is there in the VCT and then checking if requested minor channel is in the current physical channel (CTSID = TTSID?). Therefore McDermott discloses the step of when a virtual channel was unable to be tuned to in the current physical channel (thereby failing to tune to the virtual channel in the first iteration of the loop of fig. 6), obtaining the latest VCT, to see if there exists an entry for the requested virtual channel. See column 6, lines 21-38. Additionally, the step of selecting a desired channel is based on locating the desired channel based on information stored in the memory (channel maps, downloaded VCT). See column 6, lines 21-25, and lines 29-31. The step of a successful selection of a desired channel

as well as a failure of selecting a desired channel are based on information stored in the memory because a user selection of a desired channel is correlated through various tables stored in the memory.

McDermott merely discloses displaying an "service unavailable" message when the virtual channel does not exist (and therefore fails to tune to the requested virtual channel) fails to disclose the step of selecting a channel in the VCT that has the smallest sub-channel number in the same main channel as the desired channel or such a channel that has the smallest sub-channel number in the same physical channel as the desired channel.

In a similar field of endeavor, Kim discloses a scenario wherein channels/sub-channels that were previously broadcasting programs become inactive at certain times (see fig. 2). When a user selects a channel that is currently not broadcasting, Kim teaches the method of skipping the inactive channel to present the user the next active channel. Kim as such teaches tuning to another sub-channel when the desired channel is no longer being aired.

Mears discloses a system for processing channel entry, wherein when a control unit could not find the desired the desired (minor) channel and failed in the channel selection, to thereby select such a channel smallest sub-channel number in the same main channel as the desired channel (see column 6, lines 60-67). Mears therefore provides an easy, intuitive user-friendly method of channel selection by presenting a valid channel the user even when the requested channel is not available.

It would been obvious to one of ordinary skill in the art at the time of the invention to modify the system of McDermott in view of Kim and Mears by utilizing their teachings of tuning to the smallest (active) sub-channel number in the main channel as the desired channel, when the requested virtual channel could not be tuned to because the desired channel is currently not being aired. The motivation for the combination is to provide the user with a user-friendly channel selection device, that provides a user with a valid sub-channel of the major channel even the requested virtual channel is unavailable instead of a blank screen or service unavailable message, thereby alleviating the user of the burden of having to know the types of channel being used for a particular programming.

With regards to claim 4, the modified system teaches a channel selection device for receiving a digital broadcast according to ATSC standard (see McDermott, column 1, lines 19-26, column 3, lines 12-24, see Mears: column 3, lines 28-32) and analog broadcasting according to NTSC standard (see Mears: column 4, lines 62-65).

With regards to claims 8 and 9, McDermott further discloses that channels stored in memory during auto programming, wherein the channels have first been tuned to and then their VCT information is stored in the memory. See figure 3A and column 5, lines 1-15. Accordingly, McDermott teaches a channel stored in memory further includes a channel stored in memory due to previous selection (tuning) of a main channel corresponding to a main channel of the channel changing instruction.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDermott (US Pat. 6,775,843) in view of Mears (US Pat. 6,707,508).

In regards to claim 5, McDermott discloses a channel selection method comprising the step of:

Upon reception of the channel changing instruction (see column 3, lines 66-column 4 line 6), determining whether a channel corresponding to the channel changing instruction is stored in a memory (see column 5, lines 7-35), and selecting a predetermined sub-channel in a same channel as a desired channel (see column 6, lines 21-61). McDermott further discloses that channels stored in memory during auto programming, wherein the channels have first been tuned to and then their information is stored in the memory. See figure 3A and column 5, lines 1-15. Accordingly, McDermott teaches a channel stored in memory further includes a channel stored in memory due to previous selection (tuning) of a main channel corresponding to a main channel of the channel changing instruction. McDermott is silent on the step of selecting a predetermined sub-channel in the same channel as the desired channel when the channel corresponding to the channel changing instruction is not stored in the memory.

In a similar field of endeavor, Mears discloses that analog channels maybe associated with major channel numbers, wherein the analog channel is the 0^{th} sub-channel of the major channel. When a desired sub-channels is not available or invalid, the system tunes to the first available sub channel (see step 604) of the desired channel, which is the analog channel. Examiner further takes official notice

that it is well known to broadcast only analog channels for certain networks, wherein no channel map entry is required for the analog channel in the mapping tables, and the analog channel number can be simply tuned to by changing a physical frequency. Accordingly, in such a scenario, when the user enters an invalid sub-channel number, no entries exist for the particular channel, and the system simply tunes to the lowest (analog) sub-channel of the desired channel.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of McDermott in view of Mears, so that when invalid channels are entered for which no entries exist in mapping tables, the analog channel corresponding to the channel can be tuned to, thereby providing the user with a channel to view instead of an unavailable channel.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDermott (US Pat. 6,775,843) in view of Mears (US Pat. 6,707,508) and Eyer (US Pat. 6,483,547).

With regards to claim 6, McDermott is silent about the step of obtaining an updated channel table, when the predetermined sub-channel is selected based on the updated channel table.

Eyer discloses the step of a channel selection device entering a “learning” mode at the request of the user, wherein the learning mode updates all the active channels. See column 7, lines 24-30.

It would have been obvious to one for ordinary skill in the art to modify the system of McDermott in view of Eyer by allowing the user to enter a "learning" mode when a requested channel is stored in the memory (and therefore not found), wherein the learning mode updates the table with all active channels. The motivation is to provide the user with the most up to date channel availability.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDermott (US Pat. 6,775,843) in view of Mears (US Pat. 6,707,508), Eyer (US Pat. 6,483,547), and Kim (US PG Pub. 2005/0005307).

With regards to claim 7, McDermott discloses that the control unit (150) finds when channel information for the desired channel in the memory, the control unit tries to select the channel by referencing VCT thereof (see column 6, lines 21-50), and

(a) when the desired channel was found, the desired channel is selected (see figure 6 step s42), and

(b) when the desired channel is not in the current physical channel (CTSID is not TTSID) channel and as a result, the selection is failed during that iteration of the loop, obtaining the latest VCT in the subsequent iteration (step s22) to determine if the virtual channel is in the new VCT (see column 6, lines 54-62). In the event it is not contained, the modified system tunes to the smallest sub-channel in the main channel or the physical channel.

While the modified system does not discloses that a desired channel could not be found because the channel is not currently being aired and therefore failed

channel selection, Kim discloses a scenario wherein (I)(b) channels/sub-channels that were previously broadcasting programs become inactive at certain times (see fig. 2). When a user selects a channel that is currently not broadcasting, Kim teaches the method of skipping the inactive channel to present the user the next active channel. Kim as such teaches tuning to another sub-channel when the desired channel is no longer being aired.

Accordingly it would have been obvious to one of ordinary skill in the art to further modify the system in view of Kim's teachings by tuning to another sub-channel (i.e. smallest sub-channel in accordance with teachings of Mears), when desired channel is no longer being aired, thereby displaying a valid channel from the same main channel when the desired channel is no longer being aired.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to USHA RAMAN whose telephone number is (571)272-7380. The examiner can normally be reached on Mon-Fri: 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

UR

/Chris Kelley/

Supervisory Patent Examiner, Art Unit 2623